

DOCKET NO: 282734US8

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF :
GEORG MICHELITSCH, ET AL. : EXAMINER: LO, W.
SERIAL NO: 10/726,298 :
FILED: DECEMBER 1, 2003 : GROUP ART UNIT: 2179
FOR: METHOD FOR OPERATING A :
DISPLAY DEVICE

APPEAL BRIEF

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

SIR:

This is an Appeal of the Final Action dated November 27, 2009 (herein, the FA), which finally rejected Claims 15-28. A Notice of Appeal from the FA was timely filed on March 29, 2010.

I. REAL PARTY IN INTEREST

The real party in interest in this appeal is the Assignee, Sony Deutschland GmbH.

II. RELATED APPEALS AND INTERFERENCES

Appellants' legal representative and Assignee are aware of no appeals which will directly effect or be directly effected by or have any bearing on the Board's decision in this appeal.

III. STATUS OF THE CLAIMS

Claims 15-28 are pending in the application, and Claims 15-28 stand finally rejected by the FA.

The rejection of independent Claims 15, 19 and 20 is appealed herewith. A clean copy of pending Claims 15-28 is attached in the claims appendix. Independent Claims 15, 19 and 20 recite parallel subject matter, and therefore stand or fall together. The rejection of Claim 15 will be discussed herein as exemplary of the rejections of record.

IV. STATUS OF THE AMENDMENTS

An amendment under 37 C.F.R. § 1.116 was filed January 26, 2010. In the amendment, Claim 19 was amended to address a minor antecedent basis issue noted as the basis for an objection to the specification set forth in the FA. The Advisory Action of February 19, 2010 (herein, the AA) noted that this amendment was entered, and did not reiterate the objection to the specification set forth in the FA.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

Independent Claim 15 is directed to a method (see Fig. 1) for operating a display device (e.g., DD, see Figs. 2A-4B and p. 7, l. 30 – p. 8, l. 4). The method includes capturing an image of a user (see p. 7, ll. 20-22, p. 8, ll. 28-32, and S1 in Fig. 1), and measuring an eye distance between a right eye and a left eye of the user in the image (see p. 7, ll. 19-25, p. 8, ll. 28-32, and S1 in Fig. 1). The method further includes generating user position information of the user in relation to a display of said display device based on the eye distance (see p. 7, ll. 22-24, p. 8, ll. 28-32, and S1 in Fig. 1), wherein said user position information is descriptive of a distance of the user with respect to said display, and deriving a view angle of the user with respect to the display from said image of the user (see p. 3, ll. 16-17, 26-27 and 34-35, p.

8, ll. 28-32, and S1 in Fig. 1). The method further includes changing a display mode for displaying display information on said display depending on said user position information (see p. 8, l. 34-36, and S2 in Fig. 1) and to compensate for the view angle of the user (see p. 4, l. 23, p. 8, l. 34-36, and S2 in Fig. 1), wherein in said display mode an amount of said displayed display information depends on said user position information (see p. 4, ll. 28-38, p. 5, ll. 1-10, p. 7, ll. 1-7, p. 8, l. 34-36, p. 9, ll. 4-17, S2 in Fig. 1 and Figs. 2A-2B). Finally, the method includes displaying said display information on said display based on said display mode (see p. 8, ll. 36-38, p. 9, ll. 4-17, S3 in Fig. 1, and Figs. 2A-2B).

Independent Claim 19 is directed to a computer readable storage medium including computer program instructions that cause a computer to execute a method for operating a display device (see p. 5, ll. 22-29). The method includes capturing an image of a user (see p. 7, ll. 20-22, p. 8, ll. 28-32, and S1 in Fig. 1), and measuring an eye distance between a right eye and a left eye of the user in the image (see p. 7, ll. 19-25, p. 8, ll. 28-32, and S1 in Fig. 1). The method further includes generating user position information of the user in relation to a display of said display device based on the eye distance (see p. 7, ll. 22-24, p. 8, ll. 28-32, and S1 in Fig. 1), wherein said user position information is descriptive of a distance of the user with respect to said display, and deriving a view angle of the user with respect to the display from said image of the user (see p. 3, ll. 16-17, 26-27 and 34-35, p. 8, ll. 28-32, and S1 in Fig. 1). The method further includes changing a display mode for displaying display information on said display depending on said user position information (see p. 8, l. 34-36, and S2 in Fig. 1) and to compensate for the view angle of the user (see p. 4, l. 23, p. 8, l. 34-36, and S2 in Fig. 1), wherein in said display mode an amount of said displayed display information depends on said user position information (see p. 4, ll. 28-38, p. 5, ll. 1-10, p. 7, ll. 1-7, p. 8, l. 34-36, p. 9, ll. 4-17, S2 in Fig. 1 and Figs. 2A-2B). Finally, the method includes displaying

said display information on said display based on said display mode (see p. 8, ll. 36-38, p. 9, ll. 4-17, S3 in Fig. 1, and Figs. 2A-2B).

Independent Claim 20 is directed to a display device (e.g., DD, see Figs. 2A-4B, p. 7, l. 30 – p. 8, l. 4, and p. 5, ll. 22-29). The display device includes a display configured to display information (see Figs. 2A-2B), and a camera (e.g., position sensor (PS), see Figs. 2A-3) configured to capture an image of a user (see p. 7, ll. 20-22, p. 8, ll. 28-32). The display device also includes a measuring unit (e.g., position sensor (PS) and a data processor in the display device, see Figs. 2A-3, and p. 5, ll. 22-29) configured to measure an eye distance between a right eye and a left eye of the user in the image to determine a distance of the user to said display and derive a view angle of the user with respect to the display from said image of the user (see p. 3, ll. 16-17, 26-27 and 34-35, p. 7, ll. 22-24, p. 8, ll. 28-32, and S1 in Fig. 1). The display device also includes a data processor (see p. 5, ll. 22-29) configured to change a display mode for displaying display information on said display depending on said user position information (see p. 8, l. 34-36, and S2 in Fig. 1) and to compensate for the view angle of the user (see p. 4, l. 23, p. 8, l. 34-36, and S2 in Fig. 1), and to determine display information to be displayed on said display, wherein an amount of said display information depends on said distance (see p. 4, ll. 28-38, p. 5, ll. 1-10, p. 7, ll. 1-7, p. 8, l. 34-36, p. 9, ll. 4-17, S2 in Fig. 1 and Figs. 2A-2B).

VI. GROUND OF REJECTIONS TO BE REVIEWED ON APPEAL

The ground of rejection to be reviewed on appeal is whether Claims 15-28 are obvious under 35 U.S.C. § 103(a) as unpatentable over Lee (U.S. 2003/0234799) in view of Fedorovskaya et al. (U.S. 2003/0156305, herein Fedorovskaya) and Stern et al. (U.S. 2002/0047828, herein Stern).

VII. ARGUMENTS

A. Independent Claims 15, 19 and 20 are patentable over Lee, Fedorovskaya and Stern.

1. The differences between the claimed subject matter of independent Claims 15, 19 and 20 and fair suggestions of the applied references have not been correctly ascertained.

Under 35 U.S.C. § 103, the differences between the prior art and the claims at issue must be correctly ascertained. See Graham v. John Deere Co., 383 U.S. 1, 17 (1966). This well-established rule, notwithstanding the final rejection of December 29, 2005, fails to reasonably interpret the language of the claims and the teachings and fair suggestions of the applied references, and, accordingly, fails to correctly ascertain the differences between the prior art and the claims at issue.

- a. Claims 15, 19 and 20: deriving a view angle based on a captured user image

Independent Claim 15, for example, recites, in part, a method for operating a display device, comprising:

***capturing an image of a user ...
deriving a view angle of the user with respect to the display from said
[captured] image of the user;
changing a display mode for displaying display information on said
display ... to compensate for the view angle of the user ...***

Independent Claims 19 and 20 recite similar features.

As an initial matter, the AA, asserts that “the broadest reasonable interpretation of [the above-noted] limitation (in view of its specification) does not require a previously captured image.” Appellants respectfully traverse this assertion, as Claim 15 specifically recites ***capturing an image of a user***, deriving the view angle of the user with respect to the display ***from said image of the user***, and changing the display mode to compensate for ***the*** derived view angle of the user. Thus, Claim 15 clearly recites that the features recited in Claim 15 do require a captured image of a user in contrast to the assertion set forth in the AA.

The FA, at p. 5, second paragraph, and p. 18, section 14 (I), maintains the position that Stern discloses “deriving [from a captured image of a user], a view angle of the user with respect to the display”. More particularly, the FA relies on paragraph [0043] of Stern as disclosing this claimed feature.

Paragraph [0043] of Stern describes that his system includes “a leveling device for proper positioning of the individual in front of the computer. LEDs may be incorporated into the system in order to determine the correct viewing angle of the individual.”

As noted above, Claim 15 recites “*deriving a view angle of the user with respect to the display from said [captured] image of the user*”. Thus, the view angle of the user is derived (e.g., determined, measured, etc.) from a previously captured image of the user. In clear contrast, paragraph [0043] of Stern fails to disclose that the “leveling device” uses a previously captured image of a user, whatsoever.

Paragraph [0043] of Stern also describes that an LED may be incorporated into the system in order to determine the correct viewing angle for the individual. By definition, however, an LED emits light and is unsuitable for capturing an image of the user or for using a captured image

Stern, therefore, fails to teach or suggest “*deriving a view angle of the user with respect to the display from said [captured] image of the user*”, as recited in Claim 15.

Moreover, neither Fedorovskaya nor Lee discloses deriving a view angle of a user from a captured image. Therefore, even if Lee, Stern and Fedorovskaya were combined, the combined system would still not read on the above noted features recited in Claim 15.

As the disclosure of Lee, Fedorovskaya and Stern is deficient with regard to this claimed feature, reversal of this rejection is believed to be in order.

- b. Claims 15, 19 and 20: changing a display mode for displaying display information on said display ... to compensate for the view angle of the user

As noted above, Claim 15 further recites the feature of “*changing a display mode for displaying display information on said display ... to compensate for the view angle of the user*”. Independent Claims 19 and 20 recite similar features.

With respect to the arguments presented regarding this feature in the amendment filed August 6, 2009, the FA further refers, at p. 19 in section (II) of the Response to Arguments Portion, to the following argument presented in the paragraph bridging pp. 8-9 of the Amendment filed July 2, 2009:

In rejecting the claimed feature directed to compensating for the view angle of the user, the Office Action relies on the mechanical apparatus used to control the viewing angle of the monitor described in Stern. Independent Claim 15, however, is amended to recite “changing a display mode for displaying display information on said display ... to compensate for the view angle of the user”. Thus, independent Claim 15 is directed to

The FA then “respectfully points out that *Lee* was relied upon for teaching the above quoted feature.” P. 4 of the FA, however, concedes that Lee differs from Claim 15 in that “deriving a view angle of the user ... *and the view angle is compensated for*” are not clearly shown. These positions are clearly contradictory.

P. 19 and section (II) of the FA asserts that the above noted claimed feature was previously addressed by quoting the Office Action of April 3, 2009 as asserting:

wherein in said display mode an amount of said displayed information depends on said user position information (“... displaying ratio data storage part 3 according to the distance between a user and the display apparatus ...,” para. [0029]); and displaying said information on said display based on said display mode (“...displaying ratio data, and an image displaying ratio data setting...,” para. [0029]; See also see S9 of Fig. 2).

As noted above, p. 4 of the FA concedes that Lee differs from Claim 15 in that “deriving a view angle of the user ... *and the view angle is compensated for*” are not clearly shown. At p. 5, the FA then appears to rely on Stern to reject this claimed feature. However, in traversing the arguments presented in the response filed July 2, 2009, with respect to this

feature in view of Stern, p. 19 at section (II) in the Response to Arguments of the outstanding FA asserts that Lee was relied upon to reject this claimed feature.

Therefore, the FA contradicts itself and is ambiguous, at best, as to whether Lee or Stern is relied upon to reject the claimed features directed to “changing a display mode for displaying display information on said display ... *to compensate for the view angle of the user*”.

Nonetheless, Appellants further submit that neither Lee nor Stern teach or suggest “changing a display mode for displaying display information on said display ... *to compensate for the view angle of the user*”, as claimed.

Lee, at paragraph [0029], describes a computer system where a distance sensor senses the distance between a user and a display apparatus. As described at paragraph [0030], an image size adjusting part then adjusts the size of a video signal displayed at the display apparatus when the distance changes. Lee, therefore, describes a system in which a viewer’s viewing distance is compensated for, and fails to teach or suggest “changing a display mode for displaying display information on said display ... *to compensate for the view angle of the user*”, as recited in Claim 15.

Further, paragraph [0044] of Stern describes a mechanical apparatus that controls the height of the monitor and the viewing angle of the monitor. Therefore, the features of Claim 15 differ from Stern in that the display mode (clearly referring to the contents of what is displayed) is changed, whereas Stern changes the monitor’s physical position.

Further, Stern merely describes to “control” the view angle, and is silent on controlling the view angle such that the view angle is changed to compensate for the view angle of the user. Instead Stern’s mechanical apparatus controlling the viewing angle also controls the height of the monitor. It is obvious that, in the context of Stern, controlling the

viewing angle is done to compensate the effect of the height control, without further derivation of the actual view angle or compensation of the view angle (e.g., change).

Therefore, even if Stern, Fedorovskaya and Lee were combined, the combination of these references fail to disclose “changing a display mode for displaying display information on said display ... *to compensate for the view angle of the user*”, as recited in independent Claim 15.

As the disclosure of Lee, Fedorovskaya and Stern is deficient with regard to this claimed feature, reversal of this rejection is believed to be in order.

B. For at least the reasons discussed above, dependent Claims 16-18 and 21-28 also patentably define over Lee, Fedorovskaya and Stern

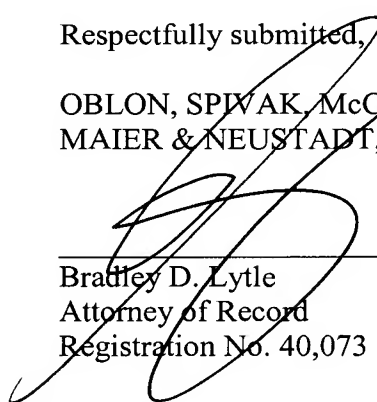
Claims 16-18, 24-26 and 28 depend from independent Claim 15, Claims 21-23 and 27 depend from independent Claim 20. Accordingly, Applicants respectfully request that the rejection of Claims 16-18 and 21-28 under 35 U.S.C. § 103 in view of Lee, Fedorovskaya and Stern be reversed.

VIII. CONCLUSION

It is believed to be clear that the AA of February 19, 2010, and the FA of November 27, 2009 failed to properly analyze the claimed subject matter and to properly determine the differences between this claimed subject matter and the applied references. In summary, Lee, Fedorovskaya and Stern, even if combined, fail to disclose a method for operating a display device, the method including “***capturing an image of a user ...***”, “***deriving a view angle of the user with respect to the display from said [captured] image of the user***” and “changing a display mode for displaying display information on said display ... ***to compensate for the view angle of the user***”. Accordingly, based on the discussion above, it is believed to be clear that independent Claims 15, 19 and 20 recite features that are clearly not taught or rendered obvious by the applied references. Under these conditions, it is clear that the rejections offered by the Examiner must be reversed.

Respectfully submitted,

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IX. CLAIMS APPENDIX

1-14. (Canceled)

15. A method for operating a display device, comprising:

capturing an image of a user;

measuring an eye distance between a right eye and a left eye of the user in the image;

generating user position information of the user in relation to a display of said display device based on the eye distance, wherein said user position information is descriptive of a distance of the user with respect to said display;

deriving a view angle of the user with respect to the display from said image of the user;

changing a display mode for displaying display information on said display depending on said user position information and to compensate for the view angle of the user, wherein in said display mode an amount of said displayed display information depends on said user position information; and

displaying said display information on said display based on said display mode.

16. The method of claim 15, wherein, if said user is in a first position said display information includes a first amount of text, and if said user is in a second position said display information includes a second amount of text, wherein said first position represents a closer position to said display than said second position and said first amount of text is larger than said second amount of text.

17. The method of claim 16, wherein said first and second amount of text is determined based on re-phrasing said first and second amount of text.

18. The method of claim 15, wherein, if said user is in a first position said display information includes a first amount of semantic content, and if said user is a second position said display information includes a second amount of semantic content, wherein said first position represents a closer position to said display than said second position and said first amount of semantic content is larger than said second amount of semantic content.

19. A computer readable storage medium including computer program instructions that cause a computer to execute a method for operating a display device, comprising:

capturing an image of a user;

measuring an eye distance between a right eye and a left eye of the user in the image;

generating user position information of the user in relation to a display of said display device based on the eye distance, wherein said user position information is descriptive of a distance of the user with respect to said display;

deriving a view angle of the user with respect to the display from said image of the user;

changing a display mode for displaying display information on said display depending on said user position information and to compensate for the view angle of the user, wherein in said display mode an amount of said displayed display information depends on said user position information; and

displaying said display information on said display based on said display mode.

20. A display device comprising:

a display configured to display information;

a camera configured to capture an image of a user;

a measuring unit configured to measure an eye distance between a right eye and a left eye of the user in the image to determine a distance of the user to said display and derive a view angle of the user with respect to the display from said image of the user;

a data processor configured to change a display mode for displaying display information on said display depending on said user position information and to compensate for the view angle of the user, and to determine display information to be displayed on said display, wherein an amount of said display information depends on said distance.

21. The device of claim 20, wherein, if said user is in a first position said display information includes a first amount of text, and if said user is in a second position said display information includes a second amount of semantic content, wherein said first position represents a closer position to said display than said second position and said first amount of text is larger than said second amount of text.

22. The device of claim 21, wherein said first and second amount of text is determined based on re-phrasing said first and second amount.

23. The device of claim 22, wherein, if said user is in a first position said display information includes a first amount of semantic content, and if said user is in a second position said display information includes a second amount of semantic content, wherein said first position represents a closer position to said display than said second position and said first amount of semantic content is larger than said second amount of semantic content.

24. The method of claim 15, wherein said amount of displayed display information comprises display items, each display item representing a respective part of a semantic

content to be displayed, and wherein said display items are selected to be displayed depending on their relative importance and on said user position information.

25. The method of claim 24, wherein said display items are represented by graphical symbols represented by picture elements.

26. The method of claim 15, wherein, if said user is in a first position said display information comprises a first set of semantic items, and if said user is in a second position said display information comprises a second set of semantic items, wherein said first position represents a closer position to said display than said second position, and wherein said second set is a subset of said first set determined by omitting at least one semantic item, said at least one semantic item being less important than the semantic items remaining in said second set.

27. The device of claim 20, wherein, if said user is in a first position said display information comprises a first set of semantic items, and if said user is in a second position said display information comprises a second set of semantic items, wherein said first position represents a closer position to said display than said second position, and wherein said second set is a subset of said first set determined by omitting at least one semantic item, said at least one semantic item being less important than the semantic items remaining in said second set.

28. The method of Claim 15, wherein said display information comprises display items, and wherein in said display mode, a saturation of a color for displaying at least one of the display items depends on said user position information.

29. (Canceled)

X. EVIDENCE APPENDIX

NONE

XI. RELATED PROCEEDINGS APPENDIX

NONE